

FILE 'REGISTRY' ENTERED AT 13:48:35 ON 21 NOV 2008  
L1           STRUCTURE UPLOADED  
L2           0 S L1  
L3           22 S L1 SSS FULL

FILE 'HCAPLUS' ENTERED AT 13:49:51 ON 21 NOV 2008  
L4           19 S L3  
L5           10 S L4 AND (PY<2003 OR AY<2003 OR PRY<2003)

FILE 'REGISTRY' ENTERED AT 15:17:17 ON 21 NOV 2008  
L6           STRUCTURE UPLOADED  
L7           0 S L6  
L8           STRUCTURE UPLOADED  
L9           0 S L8  
L10          13 S L8 SSS FULL

FILE 'HCAPLUS' ENTERED AT 15:19:07 ON 21 NOV 2008  
L11          0 S L10/THU  
L12          4 S L10

=> file registry  
COST IN U.S. DOLLARS

SINCE FILE	TOTAL
ENTRY	SESSION
0.21	0.21

FULL ESTIMATED COST

FILE 'REGISTRY' ENTERED AT 13:48:35 ON 21 NOV 2008  
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.  
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.  
COPYRIGHT (C) 2008 American Chemical Society (ACS)

Property values tagged with IC are from the ZIC/VINITI data file  
provided by InfoChem.

STRUCTURE FILE UPDATES: 20 NOV 2008 HIGHEST RN 1073589-44-2  
DICTIONARY FILE UPDATES: 20 NOV 2008 HIGHEST RN 1073589-44-2

New CAS Information Use Policies, enter HELP USAGETERMS for details.

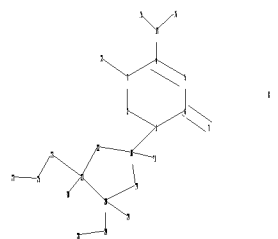
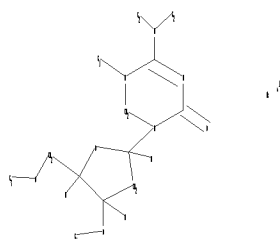
TSCA INFORMATION NOW CURRENT THROUGH July 5, 2008.

Please note that search-term pricing does apply when  
conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and  
predicted properties as well as tags indicating availability of  
experimental property data in the original document. For information  
on property searching in REGISTRY, refer to:

<http://www.cas.org/support/stngen/stndoc/properties.html>

=>  
Uploading C:\Program Files\STNEXP\Queries\10670915triazine.str



```

chain nodes :
7 8 12 13 15 16 23 24 25 27 28 29 30 31
ring nodes :
1 2 3 4 5 6 18 19 20 21 22
chain bonds :
1-18 3-12 4-13 6-7 13-15 13-16 18-31 20-24 20-29 21-23 21-30 23-25 24-28
25-27
ring bonds :
1-2 1-6 2-3 3-4 4-5 5-6 18-19 18-22 19-20 20-21 21-22
exact/norm bonds :
1-2 1-6 1-18 2-3 3-4 3-12 4-5 4-13 5-6 6-7 13-15 13-16 18-19 18-22
19-20 20-21 20-24 21-22 24-28 25-27
exact bonds :
18-31 20-29 21-23 21-30 23-25

```

G1:H, [\*1]

G2:C,H

G3:C,H,P

Connectivity :  
8:1 X maximum RC ring/chain  
Match level :  
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:CLASS 8:CLASS 12:CLASS 13:CLASS  
15:CLASS 16:CLASS 18:Atom 19:Atom 20:Atom 21:Atom 22:Atom 23:CLASS 24:CLASS  
25:CLASS  
27:CLASS 28:CLASS 29:CLASS 30:CLASS 31:CLASS  
Generic attributes :  
8:  
Saturation : Saturated

L1 STRUCTURE UPLOADED

=> s l1

SAMPLE SEARCH INITIATED 13:49:04 FILE 'REGISTRY'  
SAMPLE SCREEN SEARCH COMPLETED - 1782 TO ITERATE

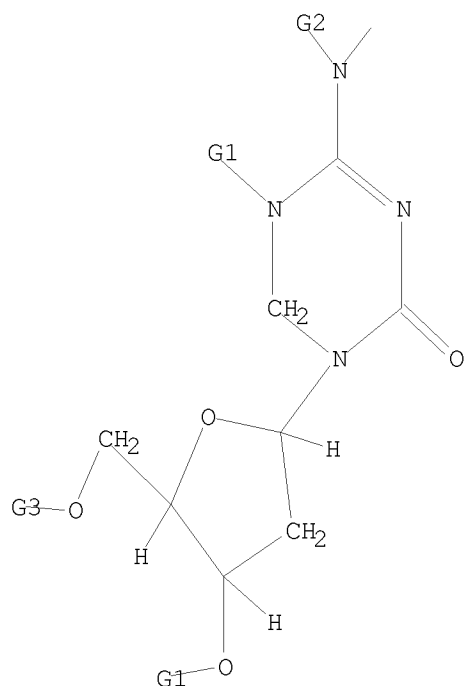
100.0% PROCESSED 1782 ITERATIONS 0 ANSWERS  
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE \*\*COMPLETE\*\*  
BATCH \*\*COMPLETE\*\*  
PROJECTED ITERATIONS: 33108 TO 38172  
PROJECTED ANSWERS: 0 TO 0

L2 0 SEA SSS SAM L1

=> d l1

L1 HAS NO ANSWERS  
L1 STR



Ak<sup>1</sup>

G1 H, [01]

G2 C, H

G3 C, H, P

Structure attributes must be viewed using STN Express query preparation.

=> s l1 sss full

FULL SEARCH INITIATED 13:49:19 FILE 'REGISTRY'

FULL SCREEN SEARCH COMPLETED - 36587 TO ITERATE

100.0% PROCESSED 36587 ITERATIONS

22 ANSWERS

SEARCH TIME: 00.00.04

L3 22 SEA SSS FUL L1

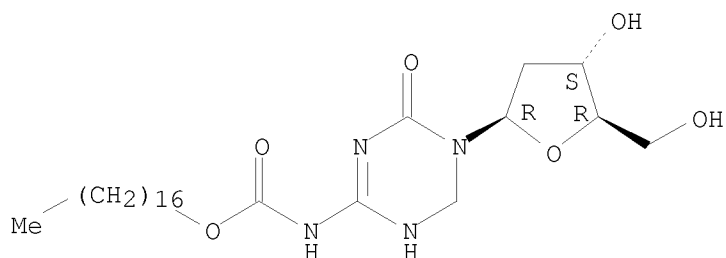
=> d l3 scan

L3 22 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN

IN Carbamic acid, [5-(2-deoxy-β-D-erythro-pentofuranosyl)-1,4,5,6-tetrahydro-4-oxo-1,3,5-triazin-2-yl]-, heptadecyl ester (9CI)

MF C26 H48 N4 O6

Absolute stereochemistry.

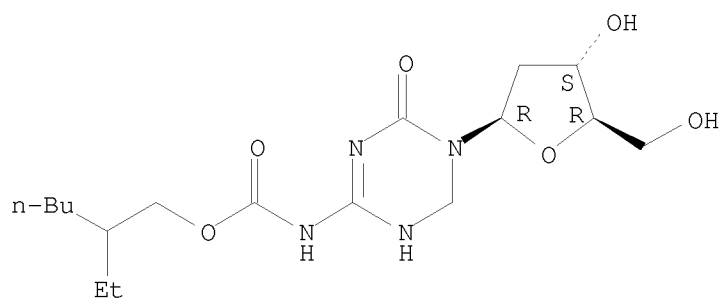


\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):2

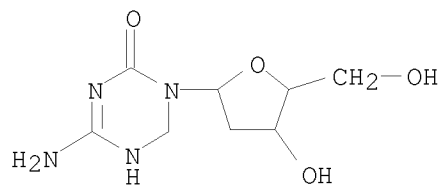
L3 22 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN  
 IN Carbamic acid, [5-(2-deoxy-β-D-erythro-pentofuranosyl)-1,4,5,6-tetrahydro-4-oxo-1,3,5-triazin-2-yl]-, 2-ethylhexyl ester (9CI)  
 MF C17 H30 N4 O6

Absolute stereochemistry.



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

L3 22 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN  
 IN 1,3,5-Triazin-2(1H)-one, 4-amino-1-(2-deoxypentofuranosyl)-3,6-dihydro-(9CI)  
 MF C8 H14 N4 O4



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):0

=> file hcaplus

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

178.82

179.03

FILE 'HCAPLUS' ENTERED AT 13:49:51 ON 21 NOV 2008

USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.

PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

COPYRIGHT (C) 2008 AMERICAN CHEMICAL SOCIETY (ACS)

Copyright of the articles to which records in this database refer is held by the publishers listed in the PUBLISHER (PB) field (available for records published or updated in Chemical Abstracts after December 26, 1996), unless otherwise indicated in the original publications. The CA Lexicon is the copyrighted intellectual property of the the American Chemical Society and is provided to assist you in searching databases on STN. Any dissemination, distribution, copying, or storing of this information, without the prior written consent of CAS, is strictly prohibited.

FILE COVERS 1907 - 21 Nov 2008 VOL 149 ISS 22

FILE LAST UPDATED: 20 Nov 2008 (20081120/ED)

HCAplus now includes complete International Patent Classification (IPC) reclassification data for the third quarter of 2008.

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> s 13

L4 19 L3

=> s 14 and (PY<2003 or AY<2003 or PRY<2003)

22961893 PY<2003

4500185 AY<2003

3968543 PRY<2003

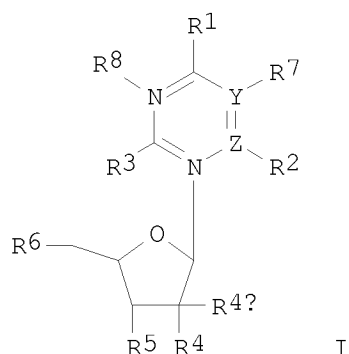
L5 10 L4 AND (PY<2003 OR AY<2003 OR PRY<2003)

=> d 15 1-10 ti abs bib

L5 ANSWER 1 OF 10 HCAPLUS COPYRIGHT 2008 ACS on STN

TI Treatment of viral diseases by 1,3,5-triazine nucleoside and nucleotide analogs, and preparation thereof

GI



AB The invention discloses a genus of nucleoside or nucleotide analogs I, wherein Y = C, CH, N; Z = C, CH, B; R1 = H, acyl, OR9, SR9, substituted sec-amine, NHNH2, O, :NR9; R9 is H, alkyl, acyl, heteroalkyl, aryl; R2 = absent, H, acyl, alkyl, halogen, O, substituted o, substituted N; R3 = H, acyl, alkyl, substituted sec-amine, substituted oxime, substituted S, O, substituted O; R4, R4a = H, halo, OMe, OH; R5, R6 = H, OR14 (R14 = H, (un)substituted alkyl); R7, R8 = absent, H, acyl, alkyl; R1R8 together with the atom to which they are attached form cycloalkyl, heterocycloalkyl; were prepared for use as antiviral agents. In another aspect, the nucleoside and nucleotide analogs I are used to treat a viral disease by administering a therapeutically effective amount of I to patient with a viral disease which is caused by an RNA virus, a DNA virus, a retrovirus, or HIV. Thus, 2'-deoxy-5,6-dihydro-5-azacytidine palmitate was prepared and was tested in vitro and in rats and dogs as antiviral agent.

AN 2007:993619 HCAPLUS <<LOGINID::20081121>>

DN 147:315014

TI Treatment of viral diseases by 1,3,5-triazine nucleoside and nucleotide analogs, and preparation thereof

IN Daifuku, Richard; Gall, Alexander; Sergueev, Dmitri

PA Koronis Pharmaceuticals, Inc., USA

SO U.S. Pat. Appl. Publ., 55pp., Cont.-in-part of U.S. Ser. No. 670,915.

CODEN: USXXCO

DT Patent

LA English

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 20070207973	A1	20070906	US 2006-616693	20061227 <--
	US 20040127436	A1	20040701	US 2003-670915	20030924 <--
	US 20070142310	A1	20070621	US 2007-671964	20070206 <--
PRAI	US 2002-413337P	P	20020924	<--	
	US 2003-670915	A2	20030924		
OS	MARPAT 147:315014				

L5 ANSWER 2 OF 10 HCAPLUS COPYRIGHT 2008 ACS on STN

TI Compounds, compositions and methods for modulating fat metabolism for treatment of metabolic disorders

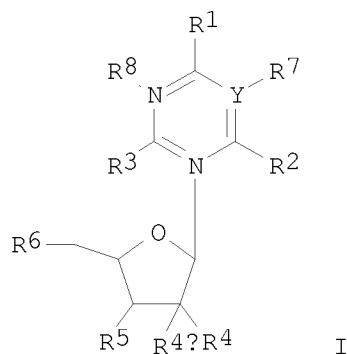
AB Methods and compns. of identifying candidate compds., for modulating fat metabolism and/or inhibiting Apobec-1 activity are provided. The invention relates to compds. and pharmaceutical compns. which are useful for regulating fat metabolism and can be used for treatment of diseases and disorders selected from the group consisting of overweight, obesity, atherosclerosis, hypertension, non-insulin dependent diabetes mellitus, pancreatitis, hypercholesteremia, hypertriglyceridemia, hyperlipidemia.



AN 2004:368857 HCAPLUS <<LOGINID::20081121>>  
 DN 140:386000  
 TI Compounds, compositions and methods for modulating fat metabolism for  
 treatment of metabolic disorders  
 IN Gaudriault, Georges; Kilinc, Ahmet; Bousquet, Olivier; Goupil-Lamy, Anne;  
 Harosh, Itzik  
 PA Obetherapy Biotechnology, Fr.  
 SO PCT Int. Appl., 461 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA English  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2004037159	A2	20040506	WO 2003-IL860	20031023 <--
	WO 2004037159	A3	20040715		
	W:				
	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,				
	CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE,				
	GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK,				
	LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ,				
	OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,				
	TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,				
	KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES,				
	FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR,				
	BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	AU 2003274652	A1	20040513	AU 2003-274652	20031023 <--
PRAI	US 2002-420316P	P	20021023	<--	
	WO 2003-IL860	W	20031023		
OS	MARPAT 140:386000				

L5 ANSWER 3 OF 10 HCAPLUS COPYRIGHT 2008 ACS on STN  
 TI Treatment of viral diseases by 1,3,5-triazine nucleoside and nucleotide  
 analogs, and preparation thereof  
 GI



AB The invention discloses a genus of nucleoside or nucleotide analogs I  
 [Y=C, CH, N; Z=C, CH, B; R1=H, acyl, NHNH2, etc; R2=absent, H, acyl, etc;  
 R3=H, acyl, (un)substituted alkyl, etc.; R4, R4a=H, halo, OMe, OH; R5,  
 R6=H, OR14 (R14= H, (un)substituted alkyl, etc.;) R7, R8=absent, H, acyl,  
 etc.] for use as antiviral agents. In a first aspect, there is provided a  
 compound according to Formula I as shown. In another aspect, the nucleoside  
 and nucleotide analogs according to Formula I are used to treat a viral  
 disease by administering a therapeutically effective amount of a compound of

Formula I to patient with a viral disease which is caused by an RNA virus, a DNA virus, a retrovirus, or HIV. Preparation of selected analogs is described.

AN 2004:290464 HCAPLUS <<LOGINID::20081121>>

DN 140:297477

TI Treatment of viral diseases by 1,3,5-triazine nucleoside and nucleotide analogs, and preparation thereof

IN Daifuku, Richard; Gall, Alexander; Sergueev, Dmitri

PA Koronis Pharmaceuticals, Incorporated, USA

SO PCT Int. Appl., 108 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
PI	WO 2004028454	A2	20040408	WO 2003-US30200	20030924 <--
	WO 2004028454	A3	20041118		
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
	RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
	CA 2499036	A1	20040408	CA 2003-2499036	20030924 <--
	AU 2003278904	A1	20040419	AU 2003-278904	20030924 <--
	EP 1545558	A2	20050629	EP 2003-770420	20030924 <--
	R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK			
	JP 2006507255	T	20060302	JP 2004-539890	20030924 <--
PRAI	US 2002-413337P	P	20020924	<--	
	WO 2003-US30200	W	20030924		
OS	MARPAT 140:297477				

L5 ANSWER 4 OF 10 HCAPLUS COPYRIGHT 2008 ACS on STN

TI Biochemical pharmacology and DNA methylation studies of arabinosyl 5-azacytidine and 5,6-dihydro-5-azacytidine in two human leukemia cell lines PER-145 and PER-163

AB 1- $\beta$ -D-Arabinofuranosyl-5-azacytosine (ara-AC) and 5,6-dihydro-5-azacytidine (DHAC) are two new antitumor agents under clin. investigations, which exhibit the chemical similarities found in the tumoricidal drug cytosine arabinoside (ara-C) and the nitrogen substitution in the 5 position of the pyrimidine ring found in 5-azacytidine (5-aza-C). The cellular anabolism of ara-AC and DHAC and their effect on DNA methylation have been examined in two new human leukemia cell lines, which are sensitive (PER-145) and resistant (PER-163) to ara-C. The triphosphate anabolite of ara-AC, ara-ACTP, was the major cellular anabolite in the cellular exts. of the PER-145 cells, reaching a cellular saturation concentration of 64.1  $\mu$ M using 25  $\mu$ M of the drug. Only trace levels of ara-ACTP were detected in the PER-163 cell line, which lacks deoxycytidine kinase, after exposure to a similar concentration. Notably, after 1 mM, the ara-ACTP concentration averaged 12  $\mu$ M. DHAC was anabolized by both cell lines to a similar degree but required much higher nucleoside concns. (100  $\mu$ M or higher) to achieve similar cellular concns. of its triphosphate, DHACTP. Although the deoxy derivative, DHAdCTP, was detected in both cell lines, it was detected at 1-2 log<sub>10</sub> lower concns. than DHACTP. DNA methylation studies showed that DHAC had a profound effect in inducing

DNA hypomethylation in both cell lines, with nadir values of 27.3 and 29.2% of control. Ara-AC induced 45% DNA hypomethylation in PER-145 cells, but did not alter the DNA methylation pattern in PER-163 cells, except when they were exposed to 1 mM of the drug for 24 h. These results could be explained by the differential biochem. activation of these drugs in the human leukemia cell lines.

AN 1995:550185 HCAPLUS <<LOGINID::20081121>>

DN 123:25321

OREF 123:4480h,4481a

TI Biochemical pharmacology and DNA methylation studies of arabinosyl 5-azacytidine and 5,6-dihydro-5-azacytidine in two human leukemia cell lines PER-145 and PER-163

AU Kees, Ursula R.; Avramis, Vassilios I.

CS Inst. Child Health Res., Princess Margaret Hosp., West Perth, Australia

SO Anti-Cancer Drugs (1995), 6(2), 303-10

CODEN: ANTDEV; ISSN: 0959-4973

PB Rapid Science Publishers

DT Journal

LA English

L5 ANSWER 5 OF 10 HCAPLUS COPYRIGHT 2008 ACS on STN

TI Polarographic reduction and potential carcinogenicity of synthetic 1,3,5-triazine bases and nucleosides

AB DC polarog. parameters were measured for a series of 15 synthetic 5-aza compds. derived from cytosine, cytidine, uracil and uridine in nonaq. (dimethylformamide) solns. The substances in aprotic media are reduced in a single two-electron step at the mercury drop electrode, except for 5,6-dihydro derivs. of 5-azauracil and 5-azauridine which are reduced in two steps.  $\alpha$ -Lipoic acid was added to the solns. of the substances, and the slopes  $tg \alpha$  of the plots of diffusion current of the substances vs.  $\alpha$ -lipoic acid concentration, which can serve as an index of potential carcinogenic activity of the substances measured, were determined. The  $tg \alpha$  values of all the compds. studied are low as compared to related substances whose carcinogenic activity has been proved. 5-Azacytidine and 5-azauracil are exceptions exhibiting  $tg \alpha$  values of 0.295 and 0.400, resp. For the former compound, this is consistent with the WHO classification as "probably carcinogenic to humans".

AN 1994:570013 HCAPLUS <<LOGINID::20081121>>

DN 121:170013

OREF 121:30587a,30590a

TI Polarographic reduction and potential carcinogenicity of synthetic 1,3,5-triazine bases and nucleosides

AU Novotny, Ladislav; Vachalkova, Anna; Piskala, Alois

CS Cancer Research Institute, Slovak Academy Sciences, Bratislava, 812 32, Slovakia

SO Collection of Czechoslovak Chemical Communications (1994), 59(7), 1691-8

CODEN: CCCCAK; ISSN: 0010-0765

DT Journal

LA English

L5 ANSWER 6 OF 10 HCAPLUS COPYRIGHT 2008 ACS on STN

TI Formation of triple helix complexes of single stranded nucleic acids using oligonucleotides

AB Triplex helix structure with a specific segment of single-stranded nucleic acid can be formed with 1st and 2nd oligomers comprised of nucleosidyl units linked by internucleosidyl phosphorus linkages. The 1st oligomer is sufficiently complementary to the target segment to form duplex and the 2nd oligomer has  $\geq 7$  nucleotidyl units that are sufficiently complementary to hybridize with the duplex to form triplex. Upon formation of the triple helix the nucleic acids of interest may be

detected and its function or expression prevented. The 1st and 2nd oligomers may comprise an oligonucleotide, an alkyl- or aryl-phosphonothioate oligomer, or other analogs, e.g. methylphosphonate oligomers. They may also contain uncharged neutral oligomers and purine or pyrimidine analogs, e.g., 2'-O-Me-pseudoisocytidine, 6-Se-guanine, or 6-isopropylidene-7-deaza-guanidine. One of applications of this method is to inhibit in vivo synthesis of a protein by targeting its mRNA, which can be used for treatment of diseases, e.g. viral infections and cancers.

AN 1993:575369 HCAPLUS <<LOGINID::20081121>>

DN 119:175369

OREF 119:31207a,31210a

TI Formation of triple helix complexes of single stranded nucleic acids using oligonucleotides

IN Ts'O, Paul On Pong; Adams, Thomas Henry; Arnold, Lyle J., Jr.

PA Johns Hopkins University, USA; Genta Inc.

SO PCT Int. Appl., 98 pp.

CODEN: PIXXD2

DT Patent

LA English

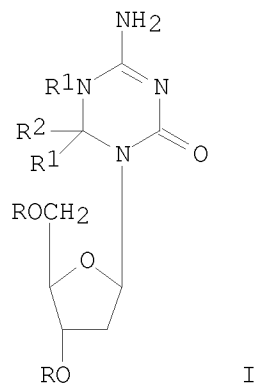
FAN.CNT 6

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9307295	A1	19930415	WO 1992-US8458	19921005 <--
	W: AU, CA, FI, JP, KR, NO, RU				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, SE				
	AU 9227852	A	19930503	AU 1992-27852	19921005 <--
	JP 07501936	T	19950302	JP 1992-507113	19921005 <--
	EP 650526	A1	19950503	EP 1992-921942	19921005 <--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, SE				
	US 5834185	A	19981110	US 1994-342647	19941121 <--
	AU 9724881	A	19970904	AU 1997-24881	19970613 <--
PRAI	US 1991-772081	A	19911007	<--	
	US 1986-924234	B2	19861028	<--	
	US 1989-368027	B2	19890619	<--	
	WO 1992-US8458	A	19921005	<--	
	US 1992-978937	B1	19921118	<--	
	US 1994-194731	B1	19940210	<--	

L5 ANSWER 7 OF 10 HCAPLUS COPYRIGHT 2008 ACS on STN

TI Preparation of 2'-deoxy-5,6-dihydro-5-azacytidine as a new 2'-deoxycytidine analog

GI



AB The title compound (I; R = R1 = R2 = H) (II) a new 2'-deoxycytidine analog having a N atom as an isoelectronic replacement for the CH group in the position 5, was prepared by reduction of (un)protected 2'-deoxy-5-azacytidine I (R = H, acyl; R1R1= bond, R2 = H) by 5-10 equiv Zn in an anhydrous C1-4 carboxylic acid, e.g. AcOH, at room temperature followed by deprotection (when appropriate) and/or neutralization by a nontoxic (in)organic acid. When R = acyl, the reduction was carried out in the presence of an excess MeC(OMe)2Me. Thus, a mixture of AcOH and MeC(OMe)2Me was allowed to stand for 24 h at room temperature and treated with Zn powder and then with 2'-deoxy-3',5'-di-O-p-toluoyl-5-azacytidine. The whole was stirred vigorously for 2.5 h at the ambient temperature to give 76% of the 5,6-dihydro intermediate isolated as an acetate. This in MeOH was stirred 24 h at ambient temperature with 1M MeONa in MeOH to give 84% II which was converted to II.HOAc (90%).

AN 1990:631939 HCAPLUS <<LOGINID::20081121>>

DN 113:231939

OREF 113:39156h,39157a

TI Preparation of 2'-deoxy-5,6-dihydro-5-azacytidine as a new 2'-deoxycytidine analog

IN Piskala, Alois; Cesnekova, Barbara; Vesely, Jiri

PA Czech.

SO Czech., 5 pp.

CODEN: CZXXA9

DT Patent

LA Czech

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	---	-----	-----	-----
PI	CS 264454	B1	19890814	CS 1987-6304	19870828 <--
PRAI	CS 1987-6304		19870828	<--	
OS	MARPAT 113:231939				

L5 ANSWER 8 OF 10 HCAPLUS COPYRIGHT 2008 ACS on STN

TI Synthesis of oligonucleotides containing 5,6-dihydro-5-azacytosine and 5-azacytosine at specific CpG sites

AB A symposium communication on the quant. conversion of dihydro-5-azacytosine (5-DHAC) to 5-azacytosine (5-AC) in a dihydro-5-azacytidine/thymidine dimer (5-DHACpT). This newly developed procedure allows similar possibilities with longer, 5-DHAC-modified oligodeoxynucleotides.

AN 1990:99111 HCAPLUS <<LOGINID::20081121>>

DN 112:99111

OREF 112:16875a,16878a

TI Synthesis of oligonucleotides containing 5,6-dihydro-5-azacytosine and 5-azacytosine at specific CpG sites

AU Goddard, Amanda J.; Marquez, Victor E.

CS Lab. Med. Chem., Natl. Cancer Inst., Bethesda, MD, 20892, USA

SO Nucleosides & Nucleotides (1989), Volume Date 1988, 8(5-6), 1015-18

CODEN: NUNUD5; ISSN: 0732-8311

DT Journal

LA English

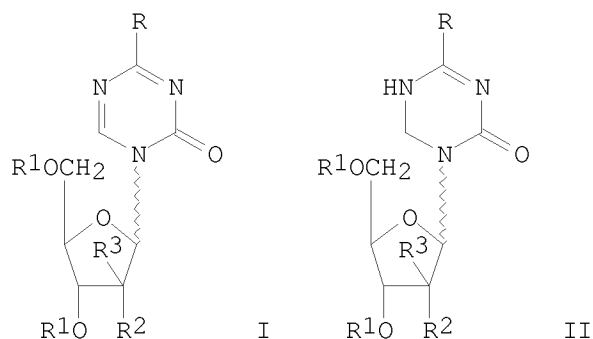
L5 ANSWER 9 OF 10 HCAPLUS COPYRIGHT 2008 ACS on STN

TI Cellular metabolism of 5,6-dihydro-5-azacytidine and its incorporation into DNA and RNA of human lymphoid cells CEM/O and CEM/dCk(-)

AB 5,6-Dihydro-5-azacytidine (DHAC) is a hydrolytically stable analog of 5-azacytidine (5-aza-C) that has antileukemic activity against exptl. leukemias and, like 5-aza-C, causes DNA hypomethylation. The authors report the cellular metabolism of DHAC and its incorporation into nucleic acids in the CCRF/CEM/O and deoxycytidine kinase mutant CCRF/CEM/dCk(-)

human lymphoid cell lines. The major anabolite of [3H]DHAC, [3H]DHACTP, peaked at 110.3  $\mu$ M in CEM/O and at 96.3  $\mu$ M in CEM/dCk(-) cells at 9 and 12 h, resp. The intracellular concns. of the deoxyribonucleoside triphosphate, [3H]DHAdCTP, peaked at 13.5  $\mu$ M at 4 h in CEM/O and at 80.8  $\mu$ M at 12 h, a 6-fold greater cellular concentration, in the dCk mutant cell line. The amount of DHAC anabolites incorporated into CEM/O nucleic acids reached a plateau in RNA at 552.6 pmol/10<sup>7</sup> cells and in DNA at 64.55 pmol/10<sup>7</sup> cells. In CEM/dCk(-) cells, DHAC anabolites reached a plateau in RNA and DNA at 4,256.3 and 395.5 pmol/10<sup>7</sup> cells, resp. Thus, with equitoxic treatments of DHAC, the incorporation of its analog anabolites into RNA and DNA was 8- and 6-fold greater in CEM/dCk(-) cells. DNA methylation levels were depressed equally despite a 6-fold greater incorporation of the analog in DNA in the CEM/dCk(-) cells, indicating that hypomethylation may be saturated after DHAC treatment. The DNA methylation levels reached a nadir of 0.19% and 0.20% methyl-C (percentage of methylation) in the two cell lines at 6 and 12 h after the beginning of drug treatment and remained relatively constant for the duration of the 24-h treatment. A curvilinear relationship was obtained between the DNA methylation levels in both cell lines and the amts. of DHAC anabolite incorporated into DNA.

AN 1989:489722 HCAPLUS <<LOGINID::20081121>>  
 DN 111:89722  
 OREF 111:14893a,14896a  
 TI Cellular metabolism of 5,6-dihydro-5-azacytidine and its incorporation into DNA and RNA of human lymphoid cells CEM/O and CEM/dCk(-)  
 AU Avramis, Vassilios I.; Powell, William C.; Mecum, Robert A.  
 CS Sch. Med., Univ. South. California, Los Angeles, CA, 90027, USA  
 SO Cancer Chemotherapy and Pharmacology (1989), 24(3), 155-60  
 CODEN: CCPHDZ; ISSN: 0344-5704  
 DT Journal  
 LA English  
 L5 ANSWER 10 OF 10 HCAPLUS COPYRIGHT 2008 ACS on STN  
 TI Preparation and biological activity of 5,6-dihydro-5-azapyrimidine nucleosides  
 GI



AB The reaction of 5-azapyrimidine nucleosides I (R = NH<sub>2</sub>, R<sub>1</sub> = R<sub>3</sub> = H, R<sub>2</sub> = OH,  $\beta$ -anomer; R = NH<sub>2</sub>, R<sub>1</sub> = R<sub>2</sub> = R<sub>3</sub> = H,  $\alpha$ - or  $\beta$ -anomer; R = R<sub>2</sub> = OH, R<sub>1</sub> = R<sub>3</sub> = H,  $\beta$ -anomer; etc., 9 compds.) with zinc powder in AcOH afforded the resp. 5,6-dihydro derivs. II in high yields. This procedure represents a convenient and general method for preparation of the title compds. The effects of some dihydro-5-azapyrimidine nucleosides on the growth in vitro of L1210 mouse leukemic cells were estimated

AN 1988:423285 HCAPLUS <<LOGINID::20081121>>  
DN 109:23285  
OREF 109:3997a,4000a  
TI Preparation and biological activity of 5,6-dihydro-5-azapyrimidine  
nucleosides  
AU Piskala, Alois; Cesnekova, Barbara; Vesely, Jiri  
CS Inst. Org. Chem. Biochem., Czech. Acad. Sci., Prague, 166 10, Czech.  
SO Nucleic Acids Symposium Series (1987), 18(Symp. Chem. Nucleic  
Acid Compon., 7th, 1987), 57-60  
CODEN: NACSD8; ISSN: 0261-3166  
DT Journal  
LA English  
OS CASREACT 109:23285

=> d his

(FILE 'HOME' ENTERED AT 13:48:12 ON 21 NOV 2008)

FILE 'REGISTRY' ENTERED AT 13:48:35 ON 21 NOV 2008

L1 STRUCTURE UPLOADED  
L2 0 S L1  
L3 22 S L1 SSS FULL

FILE 'HCAPLUS' ENTERED AT 13:49:51 ON 21 NOV 2008

L4 19 S L3  
L5 10 S L4 AND (PY<2003 OR AY<2003 OR PRY<2003)

=> log hold

COST IN U.S. DOLLARS	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	31.79	210.82
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE	TOTAL
	ENTRY	SESSION
CA SUBSCRIBER PRICE	-8.00	-8.00

SESSION WILL BE HELD FOR 120 MINUTES  
STN INTERNATIONAL SESSION SUSPENDED AT 13:50:20 ON 21 NOV 2008

Connecting via Winsock to STN

Welcome to STN International! Enter x:X

LOGINID:SSPTAEXO1623

PASSWORD:

\* \* \* \* \* RECONNECTED TO STN INTERNATIONAL \* \* \* \* \*  
SESSION RESUMED IN FILE 'HCAPLUS' AT 15:16:58 ON 21 NOV 2008  
FILE 'HCAPLUS' ENTERED AT 15:16:58 ON 21 NOV 2008  
COPYRIGHT (C) 2008 AMERICAN CHEMICAL SOCIETY (ACS)

COST IN U.S. DOLLARS	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	31.79	210.82
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE	TOTAL
	ENTRY	SESSION

CA SUBSCRIBER PRICE -8.00 -8.00

=> file registry  
COST IN U.S. DOLLARS

SINCE FILE	TOTAL
ENTRY	SESSION
34.48	213.51

FULL ESTIMATED COST

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE	TOTAL
ENTRY	SESSION
-8.00	-8.00

CA SUBSCRIBER PRICE

FILE 'REGISTRY' ENTERED AT 15:17:17 ON 21 NOV 2008  
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.  
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.  
COPYRIGHT (C) 2008 American Chemical Society (ACS)

Property values tagged with IC are from the ZIC/VINITI data file  
provided by InfoChem.

STRUCTURE FILE UPDATES: 20 NOV 2008 HIGHEST RN 1073589-44-2  
DICTIONARY FILE UPDATES: 20 NOV 2008 HIGHEST RN 1073589-44-2

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH July 5, 2008.

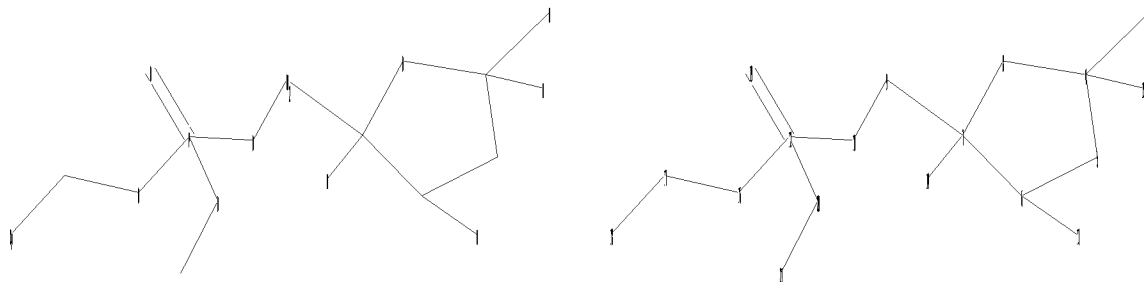
Please note that search-term pricing does apply when  
conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and  
predicted properties as well as tags indicating availability of  
experimental property data in the original document. For information  
on property searching in REGISTRY, refer to:

<http://www.cas.org/support/stngen/stndoc/properties.html>

=>

Uploading C:\Program Files\STNEXP\Queries\10670915protecting.str



chain nodes :

1 9 10 12 13 14 15 16 17 18 19 20 21

ring nodes :

4 5 6 7 8

chain bonds :

1-4 4-15 6-13 7-9 7-14 9-10 10-12 12-16 12-19 12-20 16-17 17-18 20-21

ring bonds :

4-5 4-8 5-6 6-7 7-8

exact/norm bonds :

1-4 4-5 4-8 5-6 6-7 7-8 10-12 12-16 12-19 12-20 16-17 17-18 20-21



exact bonds :  
4-15 6-13 7-9 7-14 9-10

G1:H

G2:C,H

G3:C,H,P

Match level :

1:CLASS 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:CLASS 10:CLASS 12:CLASS  
13:CLASS  
14:CLASS 15:CLASS 16:CLASS 17:CLASS 18:Atom 19:CLASS 20:CLASS 21:CLASS

Generic attributes :

18:

Saturation : Unsaturated

L6 STRUCTURE UPLOADED

=> s 16

SAMPLE SEARCH INITIATED 15:17:32 FILE 'REGISTRY'

SAMPLE SCREEN SEARCH COMPLETED - 3052 TO ITERATE

65.5% PROCESSED 2000 ITERATIONS

0 ANSWERS

INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)

SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE \*\*COMPLETE\*\*

BATCH \*\*COMPLETE\*\*

PROJECTED ITERATIONS: 57727 TO 64353

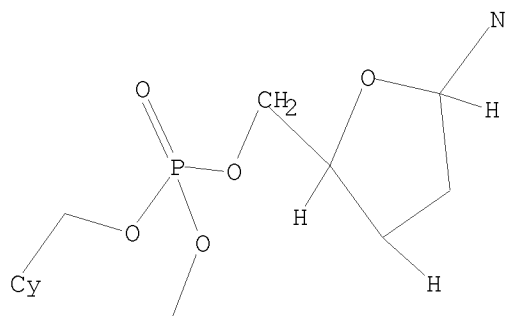
PROJECTED ANSWERS: 0 TO 0

L7 0 SEA SSS SAM L6

=> d 16

L6 HAS NO ANSWERS

L6 STR



G1 H

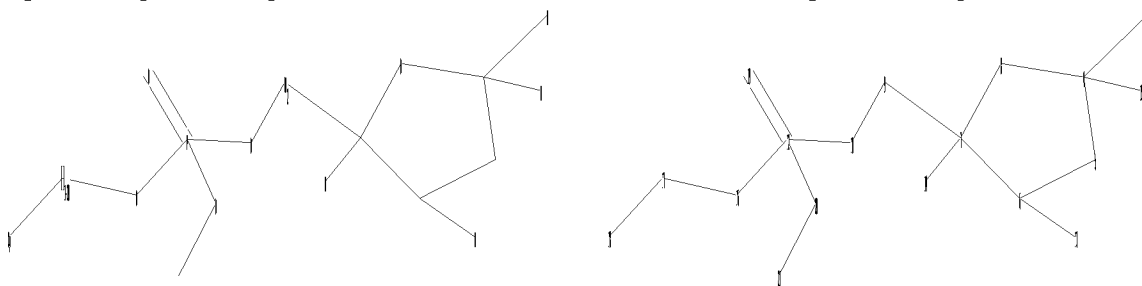
G2 C,H

G3 C,H,P

Structure attributes must be viewed using STN Express query preparation.

=>

Uploading C:\Program Files\STNEXP\Queries\10670915protecting2.str



chain nodes :

1 9 10 12 13 14 15 16 17 18 19 20 21

ring nodes :

4 5 6 7 8

chain bonds :

1-4 4-15 6-13 7-9 7-14 9-10 10-12 12-16 12-19 12-20 16-17 17-18 20-21

ring bonds :

4-5 4-8 5-6 6-7 7-8

exact/norm bonds :

1-4 4-5 4-8 5-6 6-7 7-8 10-12 12-16 12-19 12-20 16-17 17-18 20-21

exact bonds :

4-15 6-13 7-9 7-14 9-10

G1:H

G2:C,H

G3:C,H,P

Match level :

1:CLASS 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:CLASS 10:CLASS 12:CLASS

13:CLASS

14:CLASS 15:CLASS 16:CLASS 17:CLASS 18:Atom 19:CLASS 20:CLASS 21:CLASS

Generic attributes :

18:

Saturation : Unsaturated

L8 STRUCTURE UPLOADED

=> s 18

SAMPLE SEARCH INITIATED 15:18:32 FILE 'REGISTRY'

SAMPLE SCREEN SEARCH COMPLETED - 3052 TO ITERATE

65.5% PROCESSED 2000 ITERATIONS

0 ANSWERS

INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)

SEARCH TIME: 00.00.01

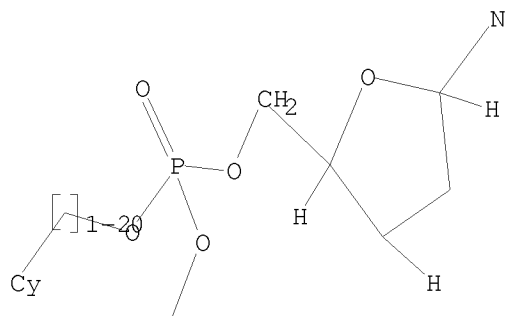
FULL FILE PROJECTIONS: ONLINE \*\*COMPLETE\*\*  
BATCH \*\*COMPLETE\*\*  
PROJECTED ITERATIONS: 57727 TO 64353  
PROJECTED ANSWERS: 0 TO 0

L9 0 SEA SSS SAM L8

=> d 18

L8 HAS NO ANSWERS

L8 STR



G1 H

G2 C,H

G3 C,H,P

Structure attributes must be viewed using STN Express query preparation.

=> s 18 sss full

FULL SEARCH INITIATED 15:18:45 FILE 'REGISTRY'

FULL SCREEN SEARCH COMPLETED - 61945 TO ITERATE

100.0% PROCESSED 61945 ITERATIONS

13 ANSWERS

SEARCH TIME: 00.00.04

L10 13 SEA SSS FUL L8

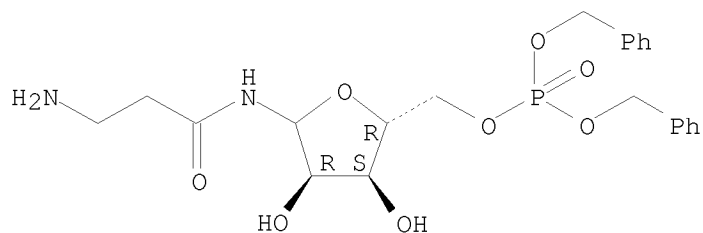
=> d 110 scan

L10 13 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN

IN Propanamide, 3-amino-N-[5-O-[bis(phenylmethoxy)phosphinyl]-D-  
ribofuranosyl]-

MF C22 H29 N2 O8 P

Absolute stereochemistry.

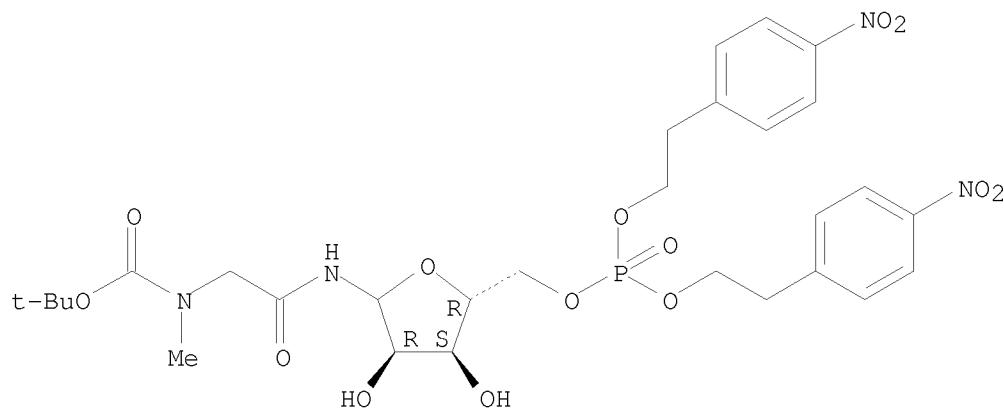


\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):3

L10 13 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN  
 IN Carbamic acid, [2-[[5-O-[bis[2-(4-nitrophenyl)ethoxy]phosphinyl]-D-ribofuranosyl]amino]-2-oxoethyl]methyl-, 1,1-dimethylethyl ester (9CI)  
 MF C29 H39 N4 O14 P

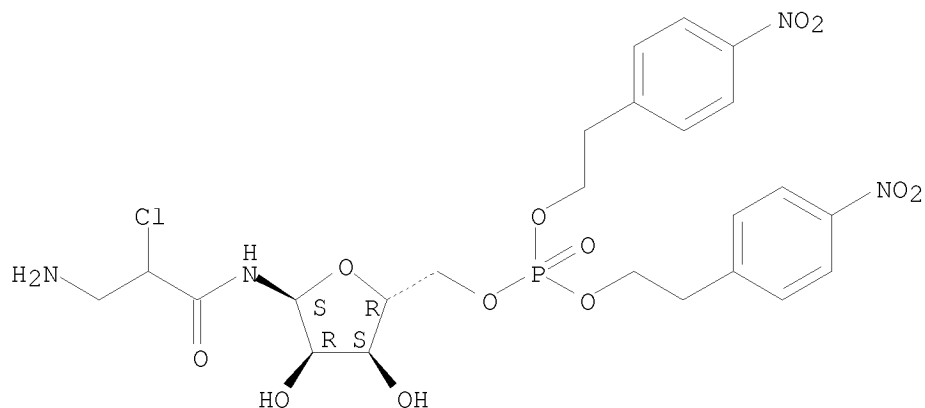
Absolute stereochemistry.



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

L10 13 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN  
 IN Propanamide, 3-amino-N-[5-O-[bis[2-(4-nitrophenyl)ethoxy]phosphinyl]-α-D-ribofuranosyl]-2-chloro-  
 MF C24 H30 Cl N4 O12 P

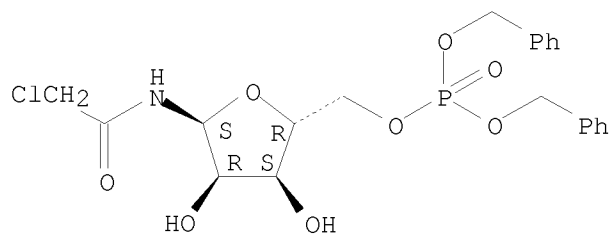
Absolute stereochemistry.



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

L10 13 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN  
 IN Acetamide, N-[5-O-[bis(phenylmethoxy)phosphoryl]-α-D-ribofuranosyl]-  
 2-chloro-  
 MF C21 H25 Cl N O8 P

Absolute stereochemistry.



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):0

=> file hcaplus

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

179.28

392.79

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE

TOTAL

ENTRY

SESSION

CA SUBSCRIBER PRICE

0.00

-8.00

FILE 'HCAPLUS' ENTERED AT 15:19:07 ON 21 NOV 2008

USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.

PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

COPYRIGHT (C) 2008 AMERICAN CHEMICAL SOCIETY (ACS)

Copyright of the articles to which records in this database refer is held by the publishers listed in the PUBLISHER (PB) field (available for records published or updated in Chemical Abstracts after December 26, 1996), unless otherwise indicated in the original publications. The CA Lexicon is the copyrighted intellectual property of the the American Chemical Society and is provided to assist you in searching databases on STN. Any dissemination, distribution, copying, or storing of this information, without the prior written consent of CAS, is strictly prohibited.

FILE COVERS 1907 - 21 Nov 2008 VOL 149 ISS 22  
FILE LAST UPDATED: 20 Nov 2008 (20081120/ED)

HCAplus now includes complete International Patent Classification (IPC) reclassification data for the third quarter of 2008.

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

```
=> s l10/thu
      4 L10
      1070979 THU/RL
L11      0 L10/THU
          (L10 (L) THU/RL)

=> s l10
L12      4 L10

=> d l12 1-4 ti bas bib hitstr
'BAS' IS NOT A VALID FORMAT FOR FILE 'HCAPLUS'
```

The following are valid formats:

```
ABS ----- GI and AB
ALL ----- BIB, AB, IND, RE
APPS ----- AI, PRAI
BIB ----- AN, plus Bibliographic Data and PI table (default)
CAN ----- List of CA abstract numbers without answer numbers
CBIB ----- AN, plus Compressed Bibliographic Data
CLASS ----- IPC, NCL, ECLA, FTERM
DALL ----- ALL, delimited (end of each field identified)
DMAX ----- MAX, delimited for post-processing
FAM ----- AN, PI and PRAI in table, plus Patent Family data
FBIB ----- AN, BIB, plus Patent FAM
IND ----- Indexing data
IPC ----- International Patent Classifications
MAX ----- ALL, plus Patent FAM, RE
PATS ----- PI, SO
SAM ----- CC, SX, TI, ST, IT
SCAN ----- CC, SX, TI, ST, IT (random display, no answer numbers;
          SCAN must be entered on the same line as the DISPLAY,
          e.g., D SCAN or DISPLAY SCAN)
STD ----- BIB, CLASS

IABS ----- ABS, indented with text labels
IALL ----- ALL, indented with text labels
IBIB ----- BIB, indented with text labels
IMAX ----- MAX, indented with text labels
```

ISTD ----- STD, indented with text labels  
 OBIB ----- AN, plus Bibliographic Data (original)  
 OIBIB ----- OBIB, indented with text labels  
  
 SBIB ----- BIB, no citations  
 SIBIB ----- IBIB, no citations  
  
 HIT ----- Fields containing hit terms  
 HITIND ----- IC, ICA, ICI, NCL, CC and index field (ST and IT)  
                   containing hit terms  
 HITRN ----- HIT RN and its text modification  
 HITSTR ----- HIT RN, its text modification, its CA index name, and  
                   its structure diagram  
 HITSEQ ----- HIT RN, its text modification, its CA index name, its  
                   structure diagram, plus NTE and SEQ fields  
 FHITSTR ----- First HIT RN, its text modification, its CA index name, and  
                   its structure diagram  
 FHITSEQ ----- First HIT RN, its text modification, its CA index name, its  
                   structure diagram, plus NTE and SEQ fields  
 KWIC ----- Hit term plus 20 words on either side  
 OCC ----- Number of occurrence of hit term and field in which it occurs

To display a particular field or fields, enter the display field codes. For a list of the display field codes, enter HELP DFIELDS at an arrow prompt (=>). Examples of formats include: TI; TI,AU; BIB,ST; TI,IND; TI,SO. You may specify the format fields in any order and the information will be displayed in the same order as the format specification.

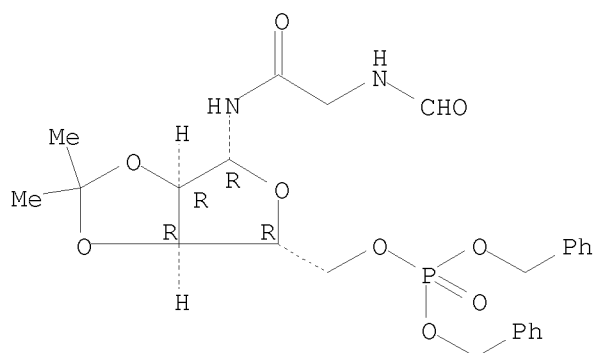
All of the formats (except for SAM, SCAN, HIT, HITIND, HITRN, HITSTR, FHITSTR, HITSEQ, FHITSEQ, KWIC, and OCC) may be used with DISPLAY ACC to view a specified Accession Number.

ENTER DISPLAY FORMAT (BIB):ti abs bib hitstr

L12 ANSWER 1 OF 4 HCAPLUS COPYRIGHT 2008 ACS on STN  
 TI Evaluation of the Kinetic Mechanism of Escherichia coli Glycinamide Ribonucleotide Transformylase  
 AB A kinetic scheme is presented for Escherichia coli glycinamide ribonucleotide transformylase (GAR transformylase, EC 2.1.2.2) based on a steady-state and pre-steady-state kinetic anal. of the reaction in both directions employing stopped-flow absorbance and fluorescence spectroscopy. Steady-state parameters showed that kcat for the reverse direction is about 10 times lower than that for the forward direction although the Km values for formyl dideazafolate and dideazafolate or for glycinamide ribonucleotide and formyl glycinamide ribonucleotide are similar. No pre-steady-state transient was observed in either direction, and the single-turnover rate constant under saturating levels of substrates in each direction was found to be very close to the resp. steady-state kcat value. This indicates that steps involving ternary complexes are rate-determining for steady-state turnover in each direction. By conducting the single-turnover reactions under various preincubation and mixing conditions, a random sequential kinetic mechanism was implicated in which the enzyme binds glycinamide ribonucleotide or formyl dideazafolate productively in no obligatory order. The collective data provided a quant. kinetic scheme to serve as a basis for the anal. of mutations.  
 AN 1998:331812 HCAPLUS <<LOGINID::20081121>>  
 DN 129:92160  
 OREF 129:18915a,18918a  
 TI Evaluation of the Kinetic Mechanism of Escherichia coli Glycinamide Ribonucleotide Transformylase

AU Shim, Jae Hoon; Benkovic, Stephen J.  
 CS Department of Chemistry 152 Davey Laboratory, Pennsylvania State  
 University, University Park, PA, 16802, USA  
 SO Biochemistry (1998), 37(24), 8776-8782  
 CODEN: BICHAW; ISSN: 0006-2960  
 PB American Chemical Society  
 DT Journal  
 LA English  
 IT 209664-71-1P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
 (Reactant or reagent)  
 (kinetic mechanism of Escherichia coli glycineamide ribonucleotide  
 transformylase)  
 RN 209664-71-1 HCAPLUS  
 CN Acetamide, N-[5-O-[bis(phenylmethoxy)phosphinyl]-2,3-O-(1-  
 methylethylidene)- $\beta$ -D-ribofuranosyl]-2-(formylamino)- (CA INDEX  
 NAME)

Absolute stereochemistry.



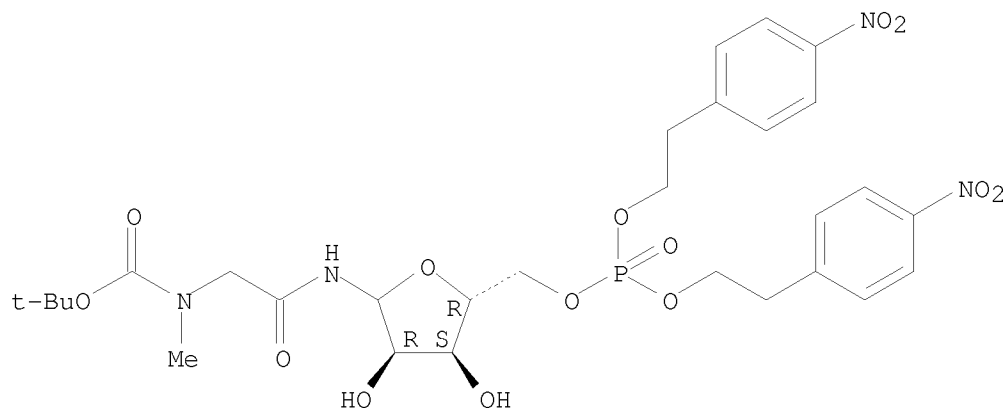
RE.CNT 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 2 OF 4 HCAPLUS COPYRIGHT 2008 ACS on STN  
 TI Substrate specificity of glycineamide ribonucleotide transformylase from  
 chicken liver  
 AB Several glycineamide ribonucleotide analogs have been prepared and evaluated  
 as substrates and/or inhibitors of glycineamide ribonucleotide  
 transformylase from chicken liver. The side chain modified analogs, in  
 which the glycine side chain, R = CH<sub>2</sub>NH<sub>2</sub>, has been replaced by R =  
 CH<sub>2</sub>NHCH<sub>3</sub> and R = CH<sub>2</sub>CH<sub>2</sub>NH<sub>2</sub>, are substrates, with V/K (relative intensity)  
 of 2.4% and 16.3%, resp. Several carbocyclic analogs of glycineamide  
 ribonucleotide, including the phosphonate derivative of carbocyclic  
 glycineamide ribonucleotide, did not serve as substrates, but were  
 inhibitors of the enzyme, competitive against glycineamide ribonucleotide,  
 with K<sub>i</sub> values ranging from 7.4 to 23.6 times the K<sub>m</sub> for glycineamide  
 ribonucleotide. However, the O-phosphonate analog of carbocyclic  
 glycineamide ribonucleotide did support enzymic activity, with V/K  
 (relative intensity) of 0.8%. In addition, glycineamide ribonucleoside was  
 neither a substrate for, nor an inhibitor of, glycineamide ribonucleotide  
 transformylase. Furthermore,  $\alpha$ -glycineamide ribonucleotide had no  
 effect on enzyme activity. These studies have begun to define the  
 structural features of the nucleotide substrate required to support  
 enzymic activity.  
 AN 1996:175342 HCAPLUS <<LOGINID::20081121>>



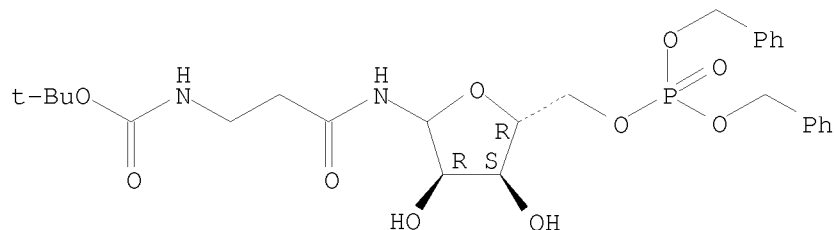
DN 124:254209  
 OREF 124:46953a,46956a  
 TI Substrate specificity of glycinamide ribonucleotide transformylase from chicken liver  
 AU Antle, Vincent D.; Liu, Dashan; McKellar, B. Robert; Caperelli, Carol A.; Hua, Mei; Vince, Robert  
 CS Division Pharmaceutical Sciences, University Cincinnati Medical Center, Cincinnati, OH, 45267-0004, USA  
 SO Journal of Biological Chemistry (1996), 271(11), 6045-9  
 CODEN: JBCHA3; ISSN: 0021-9258  
 PB American Society for Biochemistry and Molecular Biology  
 DT Journal  
 LA English  
 IT 174818-85-0P 174818-90-7P 174818-91-8P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (substrate and inhibitor specificity of glycinamide ribonucleotide transformylase from chicken liver)  
 RN 174818-85-0 HCAPLUS  
 CN Carbamic acid, [2-[[5-O-[bis[2-(4-nitrophenyl)ethoxy]phosphinyl]-D-ribofuranosyl]amino]-2-oxoethyl]methyl-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 174818-90-7 HCAPLUS  
 CN Carbamic acid, [3-[[5-O-[bis(phenylmethoxy)phosphinyl]-D-ribofuranosyl]amino]-3-oxopropyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

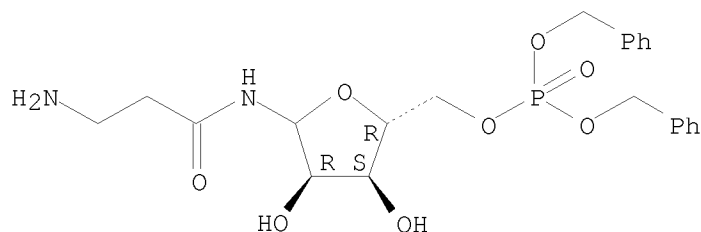
Absolute stereochemistry.



RN 174818-91-8 HCAPLUS

CN Propanamide, 3-amino-N-[5-O-[bis(phenylmethoxy)phosphinyl]-D-ribofuranosyl]- (CA INDEX NAME)

Absolute stereochemistry.



L12 ANSWER 3 OF 4 HCAPLUS COPYRIGHT 2008 ACS on STN

TI Glycinamide ribonucleotide analog probes for glycinamide ribonucleotide transformylase

AB Glycinamide ribonucleotide (GAR) transformylase catalyzes the conversion of glycinamide ribonucleotide and 10-formyltetrahydrofolate to formylglycinamide ribonucleotide and tetrahydrofolate. This reaction constitutes the 3rd step in purine biosynthesis. A series of glycinamide ribonucleotide analogs, in which the glycinamide side chain (R = CH<sub>2</sub>NH<sub>2</sub>) has been replaced by R = CH<sub>2</sub>Br, CH<sub>2</sub>Cl, CH<sub>2</sub>CN, CHN<sub>2</sub>, CHClCH<sub>2</sub>NH<sub>2</sub>, and aziridin-2-yl, was prepared. All of these analogs were inhibitors of GAR transformylase, competitive against GAR, but none of these proved to be enzyme inactivators. Neither R = CHClCH<sub>2</sub>NH<sub>2</sub> nor aziridin-2-yl served as substrates for the enzyme-catalyzed transformylation reaction.

AN 1991:444881 HCAPLUS <<LOGINID::20081121>>

DN 115:44881

OREF 115:7705a,7708a

TI Glycinamide ribonucleotide analog probes for glycinamide ribonucleotide transformylase

AU Caperelli, Carol A.; McKellar, B. Robert

CS Coll. Pharm., Univ. Cincinnati, Cincinnati, OH, 45267-0004, USA

SO Bioorganic Chemistry (1991), 19(1), 40-52

CODEN: BOCMBM; ISSN: 0045-2068

DT Journal

LA English

IT 134697-27-1P 134697-45-3P

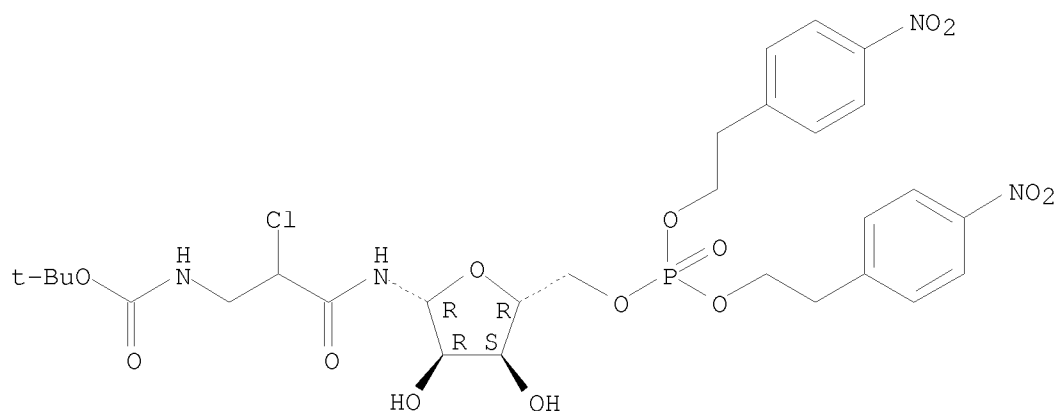
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation and deprotection of)

RN 134697-27-1 HCAPLUS

CN Carbamic acid, [3-[[5-O-[bis[2-(4-nitrophenyl)ethoxy]phosphinyl]-β-D-ribofuranosyl]amino]-2-chloro-3-oxopropyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

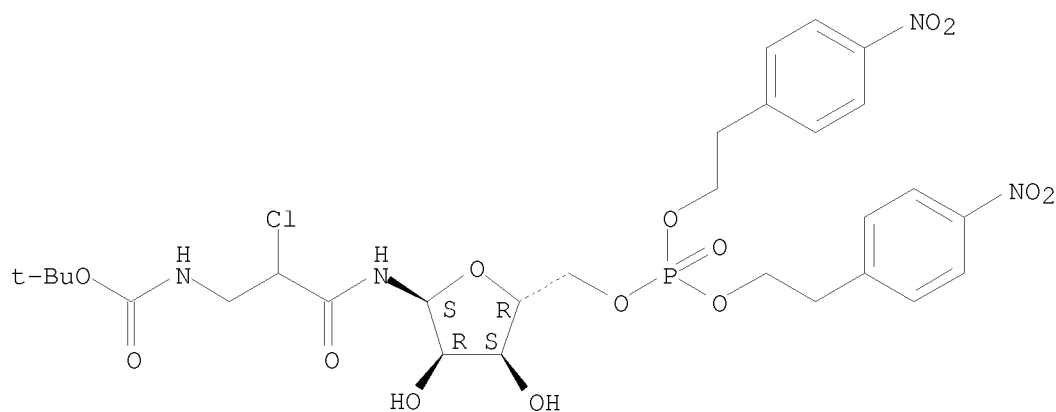
Absolute stereochemistry.



RN 134697-45-3 HCAPLUS

CN Carbamic acid, [3-[[5-O-[bis[2-(4-nitrophenyl)ethoxy]phosphinyl]-α-D-ribofuranosyl]amino]-2-chloro-3-oxopropyl]-, 1,1-dimethylethyl ester (9CI)  
(CA INDEX NAME)

Absolute stereochemistry.



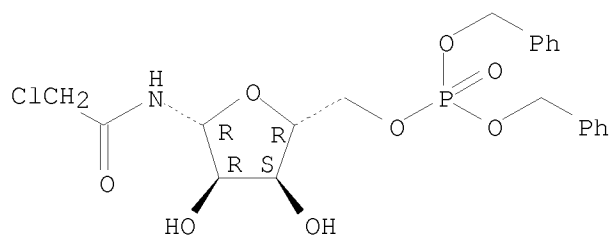
IT 134697-26-0P 134697-44-2P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)  
(preparation and hydrogenation of)

RN 134697-26-0 HCAPLUS

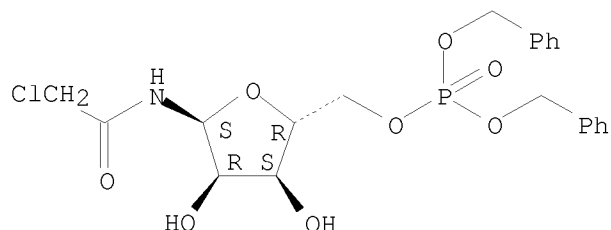
CN Acetamide, N-[5-O-[bis(phenylmethoxy)phosphinyl]-β-D-ribofuranosyl]-2-chloro- (CA INDEX NAME)

Absolute stereochemistry.



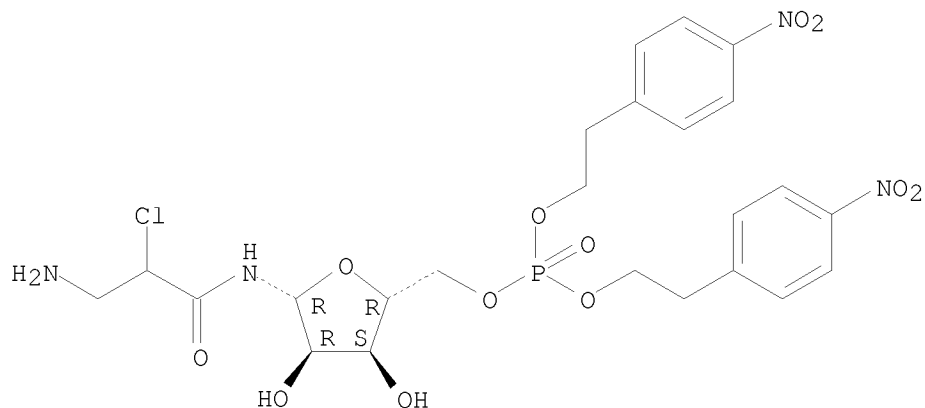
RN 134697-44-2 HCAPLUS  
 CN Acetamide, N-[5-O-[bis(phenylmethoxy)phosphinyl]- $\alpha$ -D-ribofuranosyl]-2-chloro- (CA INDEX NAME)

Absolute stereochemistry.



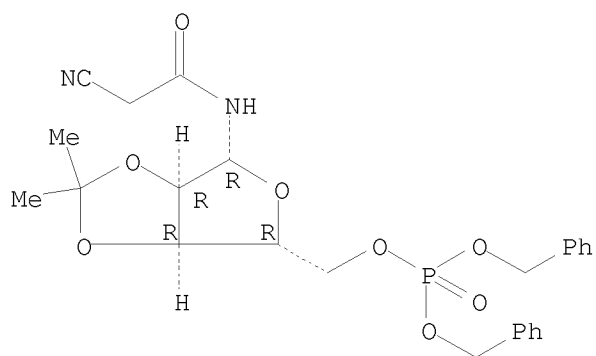
IT 134697-28-2P 134697-31-7P 134697-46-4P  
 134697-48-6P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (preparation and reaction of)  
 RN 134697-28-2 HCAPLUS  
 CN Propanamide, 3-amino-N-[5-O-[bis[2-(4-nitrophenyl)ethoxy]phosphinyl]- $\beta$ -D-ribofuranosyl]-2-chloro- (CA INDEX NAME)

Absolute stereochemistry.



RN 134697-31-7 HCAPLUS  
 CN Acetamide, N-[5-O-[bis(phenylmethoxy)phosphinyl]-2,3-O-(1-methylethylidene)- $\beta$ -D-ribofuranosyl]-2-cyano- (CA INDEX NAME)

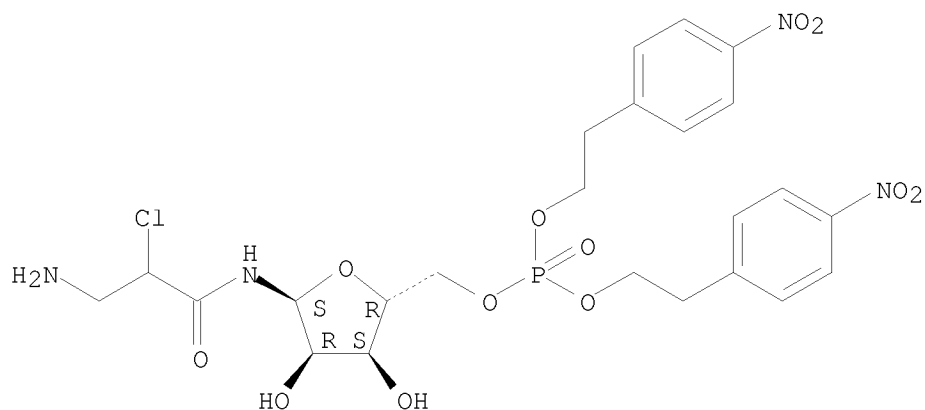
Absolute stereochemistry.



RN 134697-46-4 HCAPLUS

CN Propanamide, 3-amino-N-[5-O-[bis[2-(4-nitrophenyl)ethoxy]phosphinyl]- $\alpha$ -D-ribofuranosyl]-2-chloro- (CA INDEX NAME)

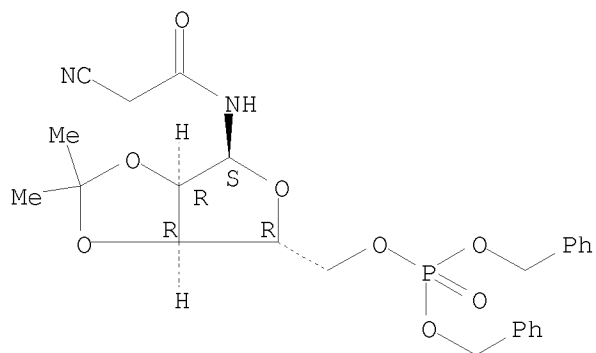
Absolute stereochemistry.



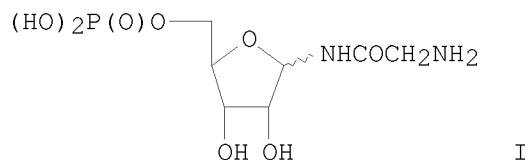
RN 134697-48-6 HCAPLUS

CN Acetamide, N-[5-O-[bis(phenylmethoxy)phosphinyl]-2,3-O-(1-methylethylidene)- $\alpha$ -D-ribofuranosyl]-2-cyano- (CA INDEX NAME)

Absolute stereochemistry.



L12 ANSWER 4 OF 4 HCAPLUS COPYRIGHT 2008 ACS on STN  
 TI An improved synthesis of glycinamide ribonucleotide  
 GI



AB Glycinamide ribonucleotide (GAR) (I) was obtained in 7 steps in 15% yield from a com. available ribose derivative  
 AN 1990:36334 HCAPLUS <<LOGINID::20081121>>  
 DN 112:36334  
 OREF 112:6305a,6308a  
 TI An improved synthesis of glycinamide ribonucleotide  
 AU Boschelli, Diane Harris; Powell, Dennis; Sharky, Veronica; Semmelhack, M. F.  
 CS Med. Res. Div., Lederle Lab., Pearl River, NY, 10965, USA  
 SO Tetrahedron Letters (1989), 30(13), 1599-600  
 CODEN: TELEAY; ISSN: 0040-4039  
 DT Journal  
 LA English  
 OS CASREACT 112:36334  
 IT 124575-24-2P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (preparation and catalytic hydrogenolysis of)  
 RN 124575-24-2 HCAPLUS  
 CN Carbamic acid, [2-[[5-O-[bis(phenylmethoxy)phosphinyl]-2,3-O-(1-methylethylidene)- $\alpha$ -D-ribofuranosyl]amino]-2-oxoethyl]-, phenylmethyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

